

CLAIMS:

1. An ink jet printing apparatus for printing on a substrate, the printer comprising:
5 a plurality of ink jet printheads for emitting ink towards a surface of the substrate wherein the printheads are adapted to be stationary while emitting ink;
a plurality of rollers arranged to move the substrate relative to the printheads; and
a pressure source
wherein the pressure source is arranged to apply a negative gauge pressure to the
10 substrate to hold the substrate to the rollers.
2. Apparatus according to claim 1, wherein the apparatus is adapted to print onto the surfaces of a plurality of discrete substrates.
- 15 3. Apparatus according to claim 1 or claim 2, wherein the apparatus includes at least three rollers arranged to move the substrate relative to the printheads.
4. Apparatus according to any preceding claim, wherein a roller is mounted substantially parallel to an adjacent roller such that the angle of the adjacent rollers is not more
20 than 6 milliradians from parallel.
5. Apparatus according to any preceding claim, wherein the rollers are rotatable wherein the apparatus is adapted to control the rotation such that the peripheral speeds of adjacent rollers are within 1%.
- 25 6. Apparatus according to any preceding claim where the negative gauge pressure is applied to the substrate in a region between adjacent rollers.
7. Apparatus according to any preceding claim, further including an element arranged
30 between the rollers adjacent the substrate.
8. Apparatus according to claim 7, wherein the element is arranged to restrict the airflow

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between the rollers.

9. Apparatus according to claim 7 or claim 8, wherein the element is arranged to reduce deformation of the substrate between the rollers.
- 5 10. Apparatus according to any preceding claim, further including a guide for guiding a leading edge of the substrate.
- 10 11. Apparatus according to any preceding claim wherein the substrate comprises a substantially rigid material.
12. Apparatus according to any preceding claim wherein the arrangement is such that the substrate is mounted, during printing, on a deformable surface.
- 15 13. Apparatus according to any preceding claim wherein the apparatus is adapted to move the substrate at a speed greater than 1m/s.
14. Apparatus according to any preceding claim, wherein the system is adapted to print a colour image.
- 20 15. Apparatus according to any preceding claim, wherein the apparatus is adapted to print an image having a resolution of greater than 120 dpi.
16. A transport device for moving a substrate past printheads in an ink jet printer, the device comprising:
25 a plurality of rollers arranged to move the substrate relative to the printheads; and
a pressure source
wherein the pressure source is arranged to apply a negative gauge pressure to the substrate to hold the substrate to the rollers.
- 30 17. A method of printing a substrate in an ink jet printer comprising a plurality of printheads, a plurality of rollers and a pressure source, the method comprising the

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steps of:

moving the substrate on the rollers relative to the printheads; and

applying a negative gauge pressure to the substrate to hold the substrate to the rollers,
wherein the printheads are stationary during emission of ink towards the substrate.

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18. A substrate printed using a printer according to any of claims 1 to 16 and/or using a
method according to claim 17.

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19. Apparatus being substantially as described herein having reference to and as
illustrated in the accompanying figures.

20. A method being substantially as described herein having reference to the
accompanying figures.

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